

REMARKS

Claims 1-85 are pending in the present application. Claims 1, 2, 6-19, 21-27, 29-38, 41-46, 72 and 75-85 stand rejected and Claims 3-5, 20, 28, 39, 40, 73 and 74 have been objected to. Claims 47-69 have been withdrawn and subsequently cancelled herein. Claims 1, 3, 4, 11, 17, 19, 20, 23, 28, 81 and 83 have been amended herein. New Claims 88-95 have been added herein and fall within the elected group. Reconsideration is respectfully requested in light of the present amendments and following remarks. The above amendments and following remarks are believed to be fully responsive to the outstanding Office Action and to render all claims at issue patentably distinct over the references cited.

The Examiner has objected to the disclosure. This objection is respectfully traversed. Notwithstanding, Paragraph No. [0026] of the specification has been amended to change reference number 32 to 37. Accordingly, it is respectfully requested that the instant objection be withdrawn.

Claims 1, 10, 12-14, 17, 18, 21-23, 32, 81, 83 and 85 stand rejected under 35 U.S.C. § 102(b) as alleged being anticipated by French Reference No. 2,120,326. This rejection is respectfully traversed. Reconsideration is respectfully requested.

Notwithstanding, independent Claim 1 has been amended to include certain elements of the objected to dependent Claim 5, notably that the lower beam of the structural reinforcement is raised adjacent the fore-and-aft extending centerline of the vehicle. In contrast, the cited reference does not teach the presently claimed invention, especially as amended.

Objected to dependent Claims 3 and 4 have now been placed in independent form essentially including the majority of features of the base independent Claim 1 therein.

Furthermore, independent Claim 17 has been amended to essentially include the features of the objected to dependent Claim 20 by stating that the structure includes at least two crossing diagonal beams. In contrast, the cited reference does not disclosed the presently claimed invention, especially as amended. Objected to dependent Claim 28 has been amended to essentially include almost all of the features of its base independent Claim 17.

Moreover, independent Claim 81 has been amended to add the step of mounting a convertible roof to the automotive vehicle. Support for this amendment can be found within the originally filed Paragraph Nos. [0026] and [0027] of the present application. In contrast, the cited reference does not teach this feature. In contrast, mounting a convertible roof to the vehicle would defeat the stated desire to employ the stationary roof-mounted cross bar T_2 of the French reference.

With regard to exemplary dependent claims, it is noteworthy that the cited French reference does not disclose a unibody construction (see Claim 22), door hardware directly mounted to the structure (see Claim 23) and a hollow center for the members (see Claim 83, as it is unclear if the box section of the French reference is filled or not). Accordingly, it is respectfully requested that the instant rejection be withdrawn.

Claims 2, 19 and 82 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over the French Reference No. 2,120,326 in view of Wolf et al. Claims 6, 7, 11, 24, 25, 29 and 30 have been rejected under 35 U.S.C. § 103(a) as allegedly

being unpatentable over French Reference No. 2,120,326 in view of Hussanini et al. (U.S. Patent Publication No. 2005/0067451). Additionally, Claims 8, 9, 26 and 27 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over French Reference No. 2,120,326 in view of German Patent No. 19916849. The Examiner has rejected Claims 15 and 33 under 35 U.S.C. §103(a) as allegedly being unpatentable over French Reference No. 2,120,326 in view of Smith. Claims 16 and 31 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over French Reference No. 2,120,326. These rejections are respectfully traversed. The originally filed claims are believed to be patentably distinct over the cited references. There is no suggestion or motivation to combine these references as suggested by the Examiner. Furthermore, it appears that hindsight reasoning is being improperly used given the present invention as a template. For example, improperly reengineering the French reference in a manner to include the portable DVD player of Hussanini would cause the brace E of the French reference to interfere with the housing 1 of Hussanini mounted to the back of the front passenger seat. The brace E would also obstruct the rear seat passenger from being able to view the seat-mounted DVD player.

It is also noteworthy that combining the French reference with Wolf (presumed to be U.S. Patent No. 5,788,322, although the Office Action is unclear in this regard) will defeat the stated purpose of Wolf at column 1, lines 38-46, where it is desired to attach and transmit forces from the spring strut receiving devices at the rear of the chassis. Furthermore, both the French reference and German 19916849 appears to be nonenabling for their intended purposes, whether they are combined or not. Moreover, combining the convertible roof of Smith with the French reference would defeat the use

of cross bar T₂ of the French reference and would also lead to significant structural instability and poor handling of the vehicle in use. The cross bar T₂ would also interfere with operation of a convertible roof. Finally, the hydroformed metal feature of Claims 16 and 31 should be given patentable weight and no reference has been cited which teaches, suggests or motivates these claimed combination of these features. Accordingly, it is respectfully requested that all of these rejections be withdrawn.

The Examiner has rejected Claims 34, 41-45, 70 and 75-79 under 35 U.S.C. §103(a) as allegedly being unpatentable over French Reference No. 2,120,326 in view of Smith (U.S. Patent No. 2,079,232). This rejection is respectfully traversed. It is believed that the originally filed claims are patentably distinct from the cited references. The Examiner's official notice is respectfully challenged as lacking support in the presently claimed combination of features.

First, the cited references do not teach the claimed "substantially hollow" upper beam of independent Claim 34. It is unclear if the box beam of the French reference is hollow or filled, and the French reference is not enabling with regard to how a box would be created given the illustrated, non-uniform, single piece shape shown for brace E.

Second, removing the stationary roof of the French reference to accommodate the convertible roof of Smith would defeat the desired use of cross bar T₂ of the French reference. The cross bar T₂ would also interfere with operation of a convertible roof. Thus, such radical, hindsight reengineering should not be employed by combining these references.

Third, there is no suggestion or motivation to combine the cited references. Solely with regard to independent Claims 34 and 70, both claims employ at least one

front passenger door opening and at least one rear passenger door opening in addition to a convertible roof. It is noteworthy that in the attached November 29, 2004 Automotive News article, Trevor Creed, Chrysler's Senior Vice President of Design, taught away from the present invention by stating "four doors and a convertible top don't lead to good, rigid bodies." However, in January of 2005, ASC first unveiled its drivable concept vehicle named the "Helios" at the Detroit North American International Auto Show. This Helios vehicle had the detailed reinforcement structure disclosed in Figures 21-26 and 35 of U.S. Serial No. 10/979,873 (a CIP of the present application). These noted figures of the CIP are covered by at least the present independent Claims 34 and 70. At the North American International Auto Show, the Helios vehicle received the 2005 North American International Auto Show Car of the Year Award and the attached May 2005 Motor Trend article stated "the unique cross-car beams that support the B-pillars and enable the Helios to pass side-impact crash tests and the double-skin tunnel that provides longitudinal stiffness" (see third page, right column). The author of this Motor Trend article took the vehicle for a road test and stated "the Helios drives like, well, a regular Chrysler 300C" (see fourth page, middle column), and "the Helios feels remarkably solid: Steep angled driveways and ramps fail to produce any creaks or groans, and the doors don't rattle in their apertures. . . . It's damned impressive" (see fourth page, right column through fifth page, right column). Thus, the present invention achieved what those skilled in the art did not believe was commercially possible. These secondary considerations of nonobviousness are significant. Accordingly, it is respectfully requested that the instant rejection be withdrawn.

Claims 35, 36 and 71 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over French Reference No. 2,120,326 in view of Smith and Hussanini et al. Furthermore, Claims 37, 38 and 72 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over French Reference No. 2,120,326 in view of Smith and German Patent No. 19916849. These rejections are respectfully traversed. It is believed that the originally filed claims are patentably distinct from the cited references. There is no suggestion or motivation to combine the references as cited as previously discussed hereinabove. Accordingly, it is respectfully requested that the instant rejections be withdrawn.

The Examiner has rejected Claim 46 under 35 U.S.C. §103(a) as allegedly being unpatentable over French Reference No. 2,120,326 in view of Lancia (U.S. Patent No. 1,694,546). This rejection is respectfully traversed. It is believed that the originally filed claim is patentably distinct from the cited references. There is no suggestion or motivation to combine the references as suggested by the Examiner. Such radical, hindsight reengineering is inappropriate and would defeat the purposes of the cited references. For example, the central post E₁ of the French reference would need to be removed or significantly altered in order to account for a floor tunnel. It is also noteworthy that Lancia does not teach, suggest or motivate that a central floor tunnel is “attached” to the structural reinforcement as is presently claimed. Moreover, neither of the cited references teach “a substantially hollow upper beam” of the base independent claim. Accordingly, it is respectfully requested that the instant rejection be withdrawn.

Claims 2 and 19 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over French Reference No. 2,120,326 in view of Wolf et al. This rejection

is respectfully traversed. It is believed that the originally filed claims are patentably distinct from the cited references. It is also unclear as to which Wolf reference is being applied. There is no suggestion or motivation to combine the references as cited. Notwithstanding, this rejection is deemed moot in light of the amendments to the base independent claims. Accordingly, it is respectfully requested that the instant rejection be withdrawn.

Finally, Claim 84 has been rejected under 35 U.S.C. §103(a) as being allegedly being unpatentable over French Reference No. 2,120,326. This rejection is respectfully traversed. It is believed that the originally filed claim is patentably distinct from the cited reference. The Examiner's official notice is respectfully challenged as lacking support in the presently claimed combination of elements. In fact, it would not have been well known nor obvious how to automate the stationary roof with cross bar T₂ of the French reference. Accordingly, it is respectfully requested that the instant rejection be withdrawn.

In view of the instant amendments, it is submitted that the present application is in condition for allowance. Accordingly, it is requested that the Examiner pass the case to issue at his earliest convenience.

Dated: Sept. 29, 2006

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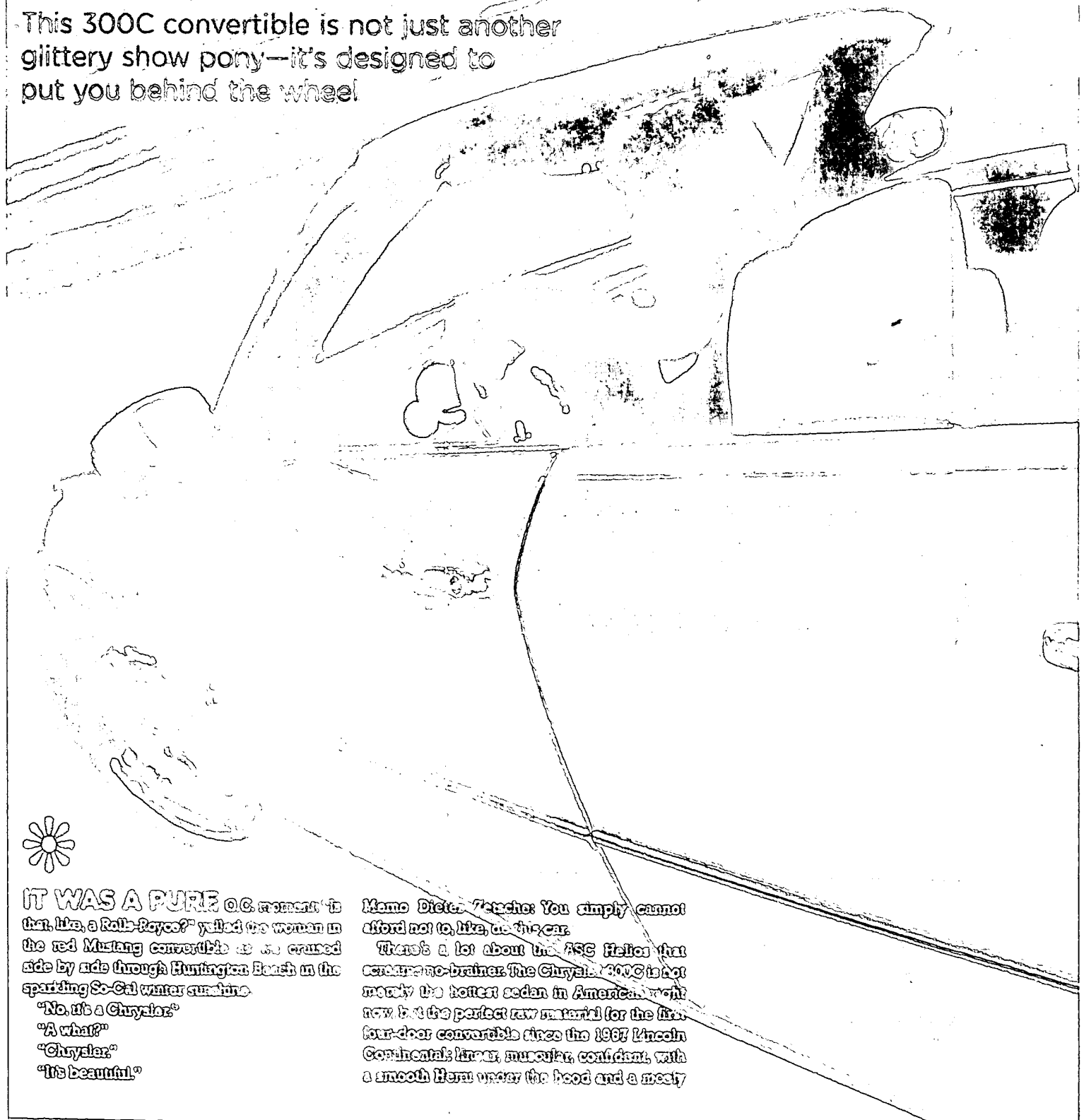
MLF/cmg

Respectfully submitted,

By: 
Monte L. Falcoff, Reg. No. 37,617

SUN SUPER HELIOS

This 300C convertible is not just another glittery show pony—it's designed to put you behind the wheel.



IT WAS A PURE O.C. moment: "Is that, like, a Rolls-Royce?" yelled the woman in the red Mustang convertible as we cruised side by side through Huntington Beach in the sparkling So-Cal winter sunshine.

"No, it's a Chrysler."

"A what?"

"Chrysler."

"It's beautiful."

Memo Dieter Venzke: You simply cannot afford not to, like, *love* the car.

There's a lot about the ASG Helios that ceases to be a brainer: The Chrysler 300C is not merely the hottest sedan in America right now but the perfect raw material for the first four-door convertible since the 1967 Lincoln Continental: limber, surging, confident, with a smooth Hemi under the hood and a sleek

(first drive)



words by *Chris Mott* photos by *Brian von*

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MOTOR TREND.COM MAY 2005

asc helios

need rear-drive chassis. The technology isn't simple and effective and backed USC's 21 years' experience engineering building convertibles for such makers as Toyota, Nissan, Mitsubishi, GM. And ASC boss Paul Wilbur says if given the green light, a production run of the Helios could be sitting in dealer showrooms in 16 months to two years, priced between \$45,000 and \$50,000.

HEYER, JUST DO IT.

To collect the Helios from ASC's new California design studio in Huntington Beach it's a quiet, anonymous building in an industrial park full of quiet, anonymous buildings. You'd never guess the previous tenant was Porsche, that this is the building where the original Carrera GT show car—

driven by Walter Rohrl at 120 mph for the 2002 Paris Show promotional video—was designed and built.

Wilbur is understandably nervous about cutting us loose in his newest baby. The Helios was put together in nine months last year, and, as usual, finished just in time to make its world debut at the Detroit show in January. Apart from a handful of miles this morning the car hasn't turned a wheel since it rolled into ASC's Southgate studio outside Detroit as a regular Saturn Jade green 300C sedan. The odometer shows just 161 miles.

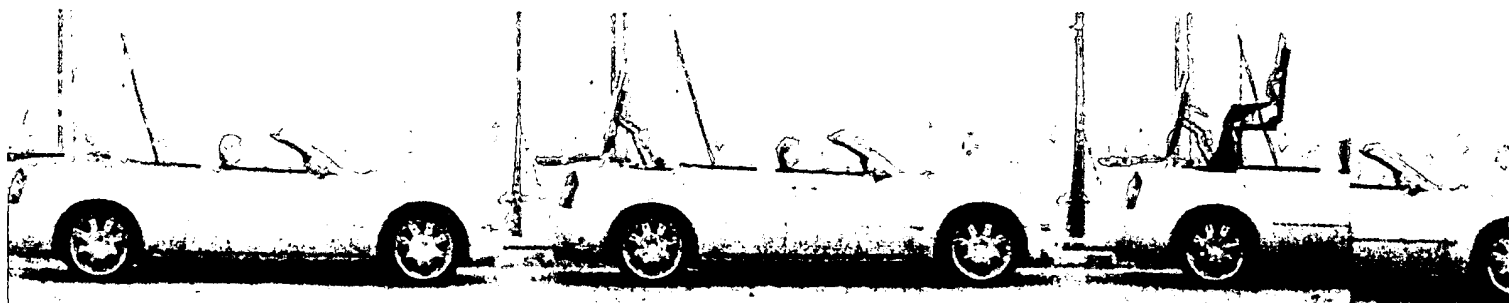
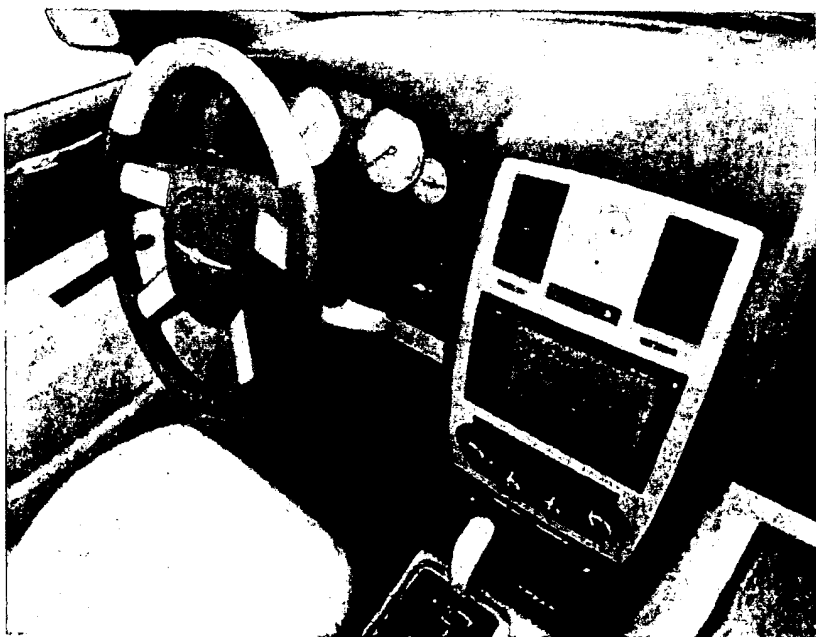
With a press of a button, the five-foot, eight-inch mid-green, fully lined glass windowed soft-top folds back into an 18-inch-long storage well. The complex articulation and careful packaging required to perform this feat account for one of the

seven patents ASC has pending to cover technologies developed during the Helios program. Others cover the unique cross-car beams that support the B-pillars and enable the Helios to pass side-impact crash tests and the double-skin center tunnel that provides longitudinal stiffness. The compact roof storage well not only ensures minimal loss of trunk capacity but, more important, reduces the amount of tearup and rework required at the rear of the car during the conversion process.

There's 300 pounds' worth of extra bracing and beefing in the Helios's body. But that's less than Wilbur expected the car would need. "We started off trying to make a dual-cowl car because people said a four-door convertible couldn't be done," he says. "But a dual-cowl would've stretched

the wheel destroying even more 300C to before him as a post-computer as stiff as heais the Lexus SC rigidity. But real-world just how good.

As is trying don't work pedals do out to in flash—ASC circuits it.



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the wheelbase three to six inches, destroying the proportions and adding even more weight. ASC engineers tore a 300C to pieces to analyze its structure, before hitting on the cross-car beam idea as a possible solution. According to the computer models, the Helios is two thirds as stiff as the Chrysler 300C sedan and beats the Mercedes-Benz CLK and the Lexus SC 430 convertibles in structural rigidity. But no one has driven this car far on real-world roads. We're about to find out just how good ASC's engineers really are.

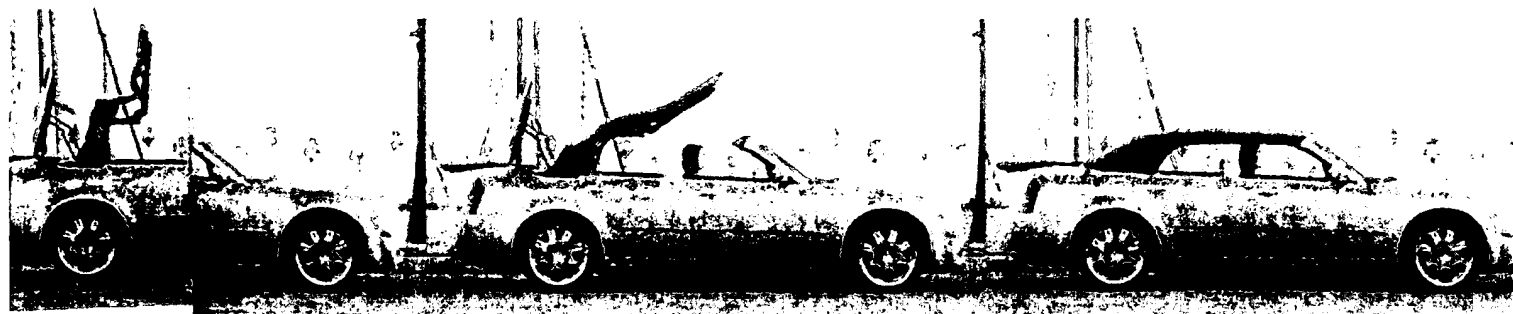
As is typical of a show car, some things don't work. The power steering wheel and pedals don't adjust, the front windows are out to lunch, and the turn signals won't flash—ASC's had to raid some of the 300C's circuits to provide power for the roof

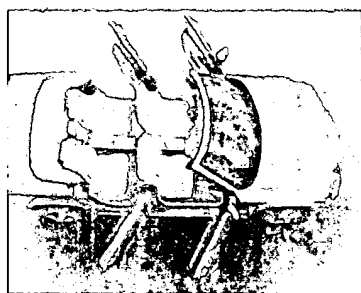
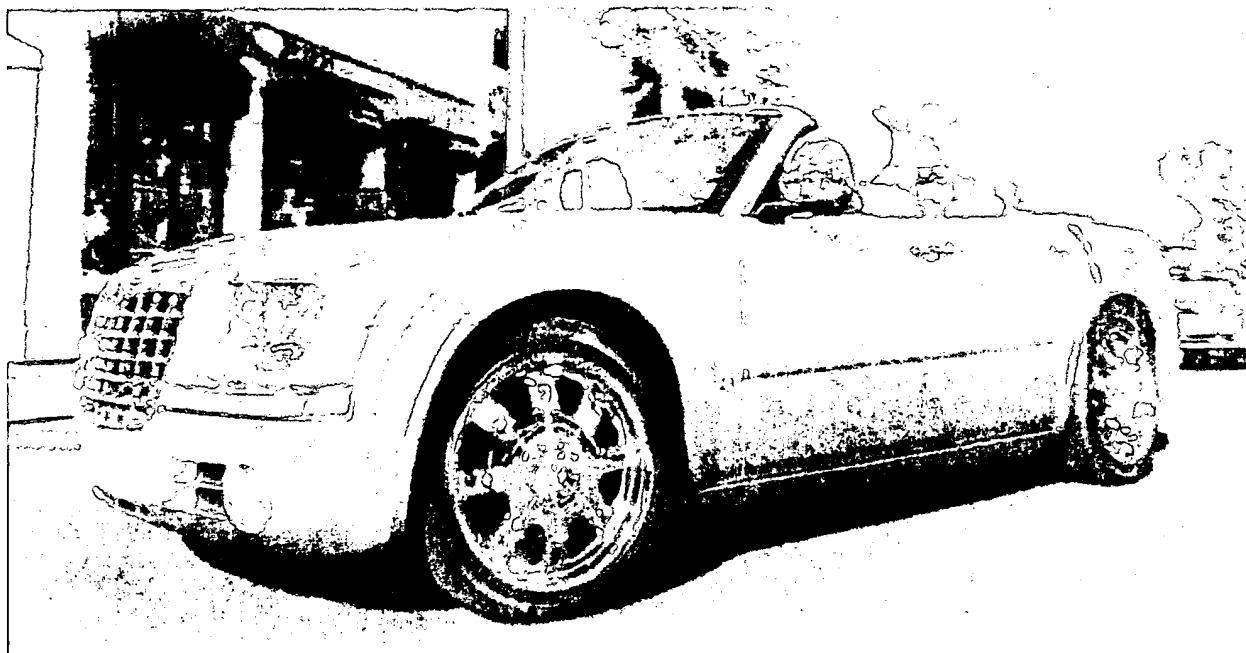
system. But the Hemi fires sweetly at the turn of the key. Pull the shifter into D, flip off the e-brake, and ease this priceless one-of-a-kind Chrysler out onto the street.

First surprise: It feels ordinary. The Helios drives like well, a regular Chrysler 300C, mainly because, apart from the roof mods, Chrysler Sebring front seats (their integrated seatbelts nearly solve the problem of where the belt top mount goes once you lop the B-pillar in half), and ASC's own custom-made 20-inch alloys, it's otherwise completely stock. With the roof and windows down, you don't hear a lot of engine noise, so the muscular Hemi seems to ooze the car from light to light as unobtrusively as the head waiter working the tables at the Four Seasons. There's relatively little disturbance from the wind in

the front seats, even at freeway speeds. It's a different story in the back, however, where the rush of wind from around the A-pillar ensures a breezy ride. ASC is looking at reprofiling the pillars and the header rail to better manage the airflow and develop small wind deflectors that deploy from the sides of the front seats.

A rubbery shudder comes back through the steering column over bumps, caused in part by the impacts transmitted from stiff, 45-series sidewall tires. The pressures have been dropped to 20 psi as an attempt to smooth things out, but there's no doubt that, like any convertible, Helios would feel better on regular pavement, wheels and tires, like the 18-inch standard on the 300C. Otherwise, Helios feels remarkably solid. Steer-





How'd they do that?

Lincoln's design team borrowed a vintage Lincoln Continental four-door convertible as an idea-generator, but only three for curb weight, foot-thick doors, twist-a-structure, and trunk-raising top had no good ideas to So the team started with a clean sheet of paper—and car's complete finite-element computer model of the some 20 structural reinforcements were then developed, which can be welded or bolted onto the existing body to compensate for the missing roof structure. A patented center bulkhead consists of heavy reinforcements that span most of the height of the steel B-pillars to route crash energy down through a beam that runs straight across the car. It's welded to top of the existing center tunnel and tied into the tail tunnel reinforcement that, along with lower side-rail reinforcements, provides most of the bending rigidity. The seats are modified to nest over the bulkhead beam, giving the full range of front-seat travel and ample passenger foot space. Similar cross-car reinforcements at the front of each rear-seat cushion provide lateral side-impact protection. Underside the car, a X-brace spans the entire cockpit, and two V-braces bolt this brace to the engine and rear suspension rails. These reinforcements bolt on to preserve

serviceability, and they reduce ground clearance slightly. A large panel welded in behind the rear seatback boosts torsional rigidity and helps support pop-up rollbars behind each rear headrest.

The resulting structure survives Chrysler's full battery of computer crash simulations without resorting to the "basket handle" B-pillar some tanger open cars have used. Of course, prying the B-pillar necessitated the revival of another long-lost art: four-door pillarless hardtop glass. A new regulator ingeniously maneuvers the longer rear-door glass backward and down on an angle, clearing the rear-wheel cutout to disappear completely.

The final miracle ASC managed to work is the Kpanse top, which springs from 53 inches long to fit in an 18-inch-long, 12-inch-deep recess. It essentially works like most other shorter tops except that the side rails along the forward two-thirds of the top glass (upward, pulling the header panel rearward to fill the space of a shorter top. Shoulder-room intrusion is minimal. Accommodating the top was required moving the rear pillar down and aft a bit, which may turn out to be the trickiest part of the Helios concept to production. —Frank Maras
To see animations of the top and the structural reinforcements, visit motortrend.com

angled driveways and ramps fail to produce any creaks or groans, and the doors don't rattle in their apertures. For a car that's literally been driven straight out of the shop without any fine-tuning, it's damned impressive.

Removing the roof doesn't harm the 300C's swaggering style. If anything, the convertible looks longer, lower, and more elegant than the sedan. Key to the Helios's good looks is the beautifully integrated cover for the roof, which carries the chrome beltline right around the car and includes small Thunderbird-style humps behind each rear-seat headrest. Ralph Gilles couldn't have done it better.

Although the deep central tunnel means it's strictly for four, there's not a convertible in the world capable of accommodating adults in the rear as comfortably as the Helios. The rear seatbacks recline through a five-degree arc, and there's plenty of room for your feet under the cross-car beams. You don't notice it so much in the sedan, but the pronounced rake in the beltline means the sheetmetal is almost shoulder high for rear passengers. You get an all-around view riding with the roof down. But you also feel secure.

The technology that transforms a 300C into a convertible can be applied to almost any four-door sedan—in fact, ASC initially offered it to Lincoln but was turned down. Maybe that was meant to be. Maybe Chrysler, the company that rejuvenated the great American sedan, is being given the opportunity to also reinvent the great American convertible. Come on, Dieter, destiny's calling. **C**

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Holden's influence on GM increases

Jason Stein

STAFF REPORTER

DETROIT — Holden Ltd., the force behind the reintroduction of the Pontiac GTO, will play a large role in General Motors' product plans.

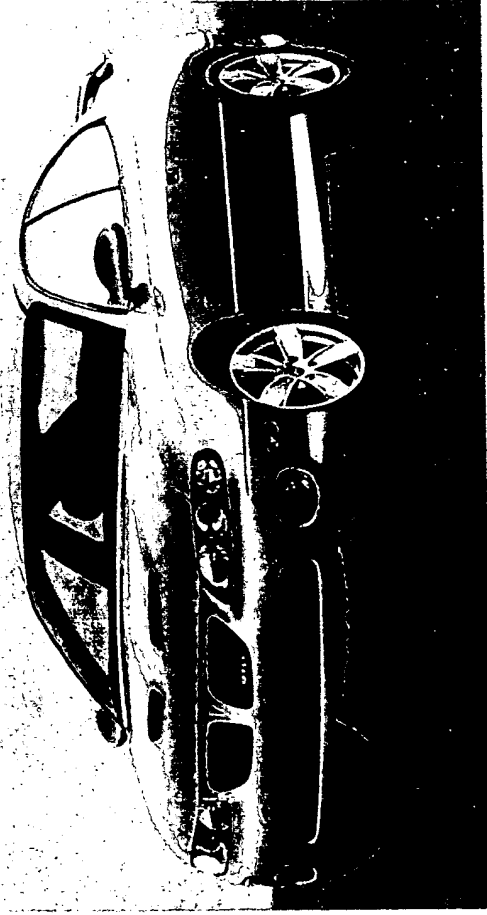
GM has assigned its Australian subsidiary the design and engineering for a new generation of rear-wheel-drive cars on the Zeta architecture. Some, including a Buick sedan and a redesigned GTO, will be assembled in the United States. The Buick will be first in 2006.

"Holden will take the lead for a lot of work, including most of the core engineering work," says Marty Hogan, program engineering manager for the current GTO. "The U.S. will still be responsible for regional needs and for meeting U.S. requirements, but Holden is serving a large need."

"Because Holden has worked on the architecture before Zeta," Hogan says, it "will continue to integrate it."

Holden's lean, profitable operation has become a role model for GM's global engineering, computer and design network.

In America, Holden helped rework the right-hand-drive Monaro into the 2004 GTO. Hogan says 35 Holden engineers



The Pontiac GTO, above, is based on the right-hand-drive Holden Monaro.



GM CEO Rick Wagoner: "Holden continues to play a critical role."

worked on the GTO, including 15 who oversaw the program from the GM Technical Center in Warren, Mich.

American engineers developed the spoiler on the GTO, the 18-inch wheels and the exhaust note.

But "ultimately, it's Holden's own architecture," Hogan says. "We're picking up work they've done and trying to apply their

applications to the core engineering." This year, GM CEO Rick Wagoner reaffirmed Holden's importance.

"Holden continues to play a critical role, both as a key local player and as a source of engineering and design expertise, with special focus on its large, rear-drive car capabilities," Wagoner told journalists in September at GM's global seminar in France.

Holden's expertise is crucial to American development.

Says Hogan: "There are not too many questions asked on this side that they don't have an answer for over there." **AN**

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Creed: Chrysler won't build a 300 convertible

Mary Connelly

STAFF REPORTER

DETROIT — Forget about the Chrysler group building a Chrysler 300 convertible, says Trevor Creed, the company's senior vice president of design.

But do look for a 300 convertible built by American Specialty Cars of Southgate, Mich., at the Detroit auto show in January, Creed says.

A 300 convertible is not in the Chrysler group's product plan because of the engineering changes required to create a four-door convertible, Creed says.

"Four doors and a convertible top don't lead to good, rigid bodies," Creed says.

But Chrysler group engineers are involved with American Specialty Cars as it creates the 300 convertible planned for the auto show, Creed says.

Tim Yost, American Specialty Cars director of marketing and communications, declined comment on whether the company would show a 300 convertible in Detroit. He also declined comment on whether the company will produce a convertible 300 for Chrysler group showrooms.

"ASC is going to be showing vehicles in its own exhibit at the auto show," Yost says. "We have not announced what those vehicles will be."

The Chrysler group product strategy calls for producing vehicle variants to build volume and buzz. For example, next spring the Chrysler group will offer the 300 SRT-8 equipped with a 6.1-liter Hemi V-8 generating 425 hp. **AN**



Creed: ASC will show ragtop at Detroit auto show.

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The sport wagon segment jumped 17.6 percent last year, tallying 1,754,876 sales. GM has its toe in the water: The Chevrolet Equinox has been a hit, the Cadillac SRX has been well received in the press, and the Pontiac Torrent will be added this

Missed opportunities, poor execution and the delay of a new-vehicle program have prevented GM from being a major player. Styling issues with the Pontiac Aztek and Buick Rendezvous, plus problems with the continuously variable transmission in the Saturn Vue, are a few of the issues.

They screwed up their initial entries." Hall is a former GM employee.

Sport wagons are car-based, SUV-like vehicles.

GM offered five sport wagons in 2004 (see table above). The hot competitors are the Ford Escape, Honda CR-V and Pilot, Toyota Highlander

da-based sport wagon in 2006, followed by GMC and Buick sport wagons a year later.

The Lambda-based sport wagons will be wide, have carlike features and emphasize comfort. A big V-8

see WAGON, Page 30

Cruiser don't 300 coattails

are refreshing the vehicle."

Jim Hall, vice president of industry analysis at AutoPacific Inc. in Southfield, Mich., says a PT Cruiser face-lift is expected for the 2006 model year. A redesigned model is likely to follow within two to three model years, Hall says.

Chrysler repositioned the PT Cruiser for the 2005 model year, removing content and reducing the base sticker price. That move is stabilizing the model until freshened product arrives, Murphy says.

Chrysler sold 28,120 PT Cruisers in the first quarter.

Pacifica sales are down because of the strong performance of the Chrysler Town & Country minivan, Murphy says. Through March, 20,084 Pacificas were sold.

The Town & Country was the Chrysler-brand sales leader in the first quarter with 43,849 units, up 41.2 percent from the year-ago quarter. Minivan sales accounted for 28.2 percent of the brand's sales in the period. The 300, with 36,252 units, generated 23.3 percent of Chrysler-brand sales through March.

Says Murphy: "Pacifica continues to struggle in our showrooms a little bit with minivans." **AN**

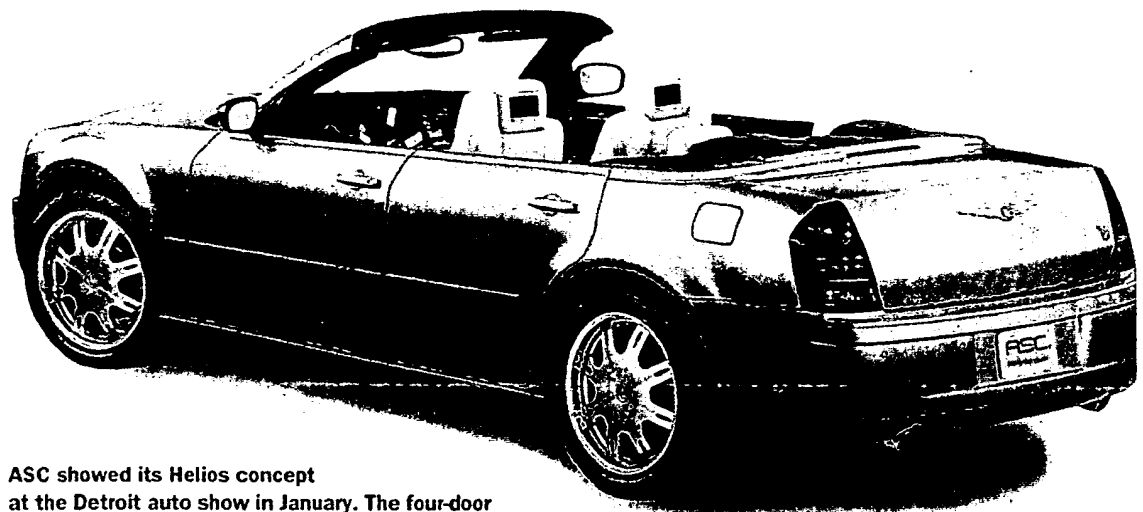
PhatNoise — et the movies

bution companies.

"The system is a hard drive that can play anything," says Uplander Marketing Manager Craig Struggs. "But right now there is no way you can legally download movies and play them in a car."

The technology to download movies exists. But Struggs says the movie industry has not created a way to prevent downloaded films from being transferred to other computer hard drives. Struggs said he hopes the problem will be resolved soon.

see PHATNOISE, Page 53



ASC showed its Helios concept at the Detroit auto show in January. The four-door convertible is based on a stock Chrysler 300C.

Chrysler develops case for a 300 convertible

Mary Connelly
mconnelly@crain.com

DETROIT — The Chrysler group is developing a business case to determine whether it will build a Chrysler 300 convertible.

Marketing and engineering groups are studying the Helios concept convertible created by ASC Inc. The Helios is based on a stock 300C sedan.

"There is nothing in the segment," says George Murphy, Chrysler group senior vice president of global brand marketing. "It is an interesting opportunity."

But Chrysler faces a daunting challenge in building a four-door convertible — a rarity because of the engineering difficulties involved. In November, Chrysler group design chief Trevor Creed said the company would not build a 300 convertible.

Detroit unveiling

Chrysler engineers were involved in the creation of the Helios, which was unveiled at the 2005 Detroit auto show. But Creed said structural-rigidity issues precluded a production version of the 300 convertible.

The company has no deadline for making a decision, Murphy says.

Chrysler has received "a lot of requests" for a 300 convertible, Murphy says.

"It is more a technical challenge than it is a marketing challenge," he says.

But Chrysler will wait to deal with the engineering issues until a marketing study is complete, says Burke Brown, chief engineer for the rear-wheel-drive product team.

"Right now, Brown says, "marketing is in the middle of their analysis asking, 'Is this really something the world wants and needs?'"

Creating structural rigidity in a four-door convertible is a longstanding industry challenge. If Chrysler succeeds, the 300 convertible will be the first four-door convertible since the 1967 Lincoln Continental, according to ASC.

Rigidity is an issue because removing the roof eliminates much of the structure that gives the vehicle body its stiffness.

The longer distance between the front and rear wheels in a four-door vehicle makes it more likely the body will flex.

Brown says the issue is: "How do you make a car with that long a

wheelbase very stiff and not give up all the ride comfort and handling?"

"I don't think there is anything in it that is totally impossible. It is assessing what it will take."

When it introduced the Helios, ASC said it had reinforced the car.

Build decisions

Additionally, Chrysler must decide how to build a convertible.

"Do you take a whole car that is essentially a finished car and chop it up and throw away parts, or do you send out a partial vehicle?" Brown asks.

ASC does not comment on programs with any customer, says Tim Yost, a spokesman for the Southgate Mich., specialty design firm.

ASC stands by claims it made in January regarding the structural rigidity of the Helios, Yost says.

In January, the company cited patent-pending "body-engineering advances, including an innovative cross-car bulkhead, longitudinal tunnel and underbody reinforcements."

ASC said the rigidity of the Helios would be better than existing production convertibles. ASC also said the Helios would meet federal side-impact crash standards. **AN**



FLASH

W's inaugural wheels

Whether you're a blue state or red state type, be sure to check out the Presidential Inaugural Parade Jan. 20, if not for a waving George W. Bush, then for the limo in which the



Prez will ride. The limo is based on the 2006 Cadillac DTS, so technically this is the first public appearance of the latest Caddy. The production DTS debuts at the Chicago auto show in February.

Fisker Coachbuild

Henrik Fisker and Bernhard Koehler have left Ford's Global Advanced Design Studio in Irvine, California, to start Fisker Coachbuild, to design and manufacture limited-edition, high-end sports cars. Fisker was director of the Global Advanced Design Studio. He was also director of design for Aston Martin and an Aston board member. Koehler was director of business and operations at the Global Advanced Design Studio. The first Fisker Coachbuild car is expected to be shown later this year.

Rattling out the Ragster

We can't say we're down with the name of the Volkswagen Ragster Concept,

ASC HELIOS

NORTH AMERICAN CAR OF THE YEAR GOES CONVERTIBLE

SOME HISTORICAL cycles seem like they happen too often: Hip-huggers. Dickies. *Starsky and Hutch*. The world can credit American Specialty Cars with the latest revival from the past, the Chrysler 300C-based ASC Helios.

The Helios is a full-size, four-seat, four-door American convertible, the first on these shores since the demise of the 1967 Lincoln Continental Convertible. Since then, because of federal safety regulations, cars of this ilk have been prohibitive to build. That was before ASC applied for seven patents ranging from a unique roof package system to a double-tunnel brace that allows Helios to meet or exceed structural rigidity mandates and crashworthiness standards in computer simulation. ASC has been working on Helios for more than a year.

Though this is a project car only, and one that has yet to be approved by DaimlerChrysler, ASC executives say it *could* be in limited production less than two years after approval. ASC says this roadster renaissance can

be applied to other large four-door cars, like the Cadillac STS or Ford Five Hundred.

Helios has some trick features. Its front-seat mechanism is modified so rear passengers don't feel intrusion if the seats are pushed all the way back; a six-foot-plus passenger can fit comfortably in the rear. The five-foot-eight-inch convertible top folds into an 18-inch opening, due to a unique system designed by ASC. Also, between the rear-reclining bucket seats is an integrated console. A state-of-the-art Sony multimedia and navigational system is imbedded in the front headrests, which marks the first effort from a relationship between ASC and the Japanese consumer electronics maker.

A lattice-like frame beneath Helios allows for a frameless, half-B-pillar opening; there is

no "basket handle" extension that separates the front and rear passengers like an ill-fitting roll bar. The added structure increases the vehicle's weight by 300 pounds. During computer simulations the Helios showed torsional-rigidity traits better than the Mercedes-Benz CLK cabriolet and Lexus SC 430 coupe/convertible. The company also says Helios' side-impact safety characteristics are comparable to its hard-topped 300 sedan brother.

ASC officials have not said what Helios would cost. Considering the hot-selling 300C sedan sells in the mid-\$30,000 range, \$50,000 for a limited-edition American classic doesn't seem unreasonable. The only question is which company will be the first to reignite the flame!

—DUTCH MANDEL



RETURN OF THE SPUR

Bentley's much-anticipated luxury coupe-based sedan moves past the rumor stage March 1 at the Geneva motor show when Volkswagen's high-end

subsidiary unveils the Continental Flying Spur. Like its 1957 predecessor, a four-door version of the R-Type Continental coupe, the 2006 Flying Spur shares lineage with the 552-hp W12-powered Continental GT coupe (see 10 Hot Cars for '05, AW, Dec. 13, 2004) that went on sale last March. Bentley won't say when its fastest sedan ever will go on sale, but we'd expect first deliveries by late 2005. Look for our full report in next week's issue.



AV GOINGS-ON

► **Online:** Maximum Detroit auto show coverage

► **On deck:** The first look deep inside Jaguar's Detroit concept, Chrysler 300C SRT-8 drive

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